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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/510,183

09/30/2004

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EXAMINER

HALL, ASHA J

ART UNIT

PAPER NUMBER

1795

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/510,183	<b>Applicant(s)</b> RANSQUIN ET AL.	
	<b>Examiner</b> ASHA HALL	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

. The term "unwanted" in claim 7 is a relative term which renders the claim indefinite. The term "unwanted" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear if there is a range associated to the "unwanted" portion of the radiation.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Osborn et al. ("Spectral selectivity applied to hybrid concentration systems", Solar Energy Materials, vol. 14, no.3-5, November 1985, p. 301-329).

**Comment [a1]:** Also 7-9 rejected here: Also the NPL copy that I took from the internet (www.knovel.com) has "copyright embedded in the text". I can't figure out a way to remove it.

In regard to claim 1, Osborn et al. discloses a concentrator/Fresnel lens photovoltaic generator as shown in Figure 6, comprising at least one photovoltaic cell covered by a transparent protection layer (page 311) and a reflecting concentrator/Fresnel Lens (page 305) as shown in Figure 6, characterized in that the concentrator is covered by a filter/beamsplitter to eliminate in the luminous flux reflected by the concentrator toward the photoelectric cell most of the "unwanted" radiation that is not able to excite the photovoltaic cell (page 311).

With respect to claim 2, Osborn et al. further discloses that the filter is formed of a layer made from materials/cobalt salts absorbing the "unwanted"/transmit the portion of the spectrum useful to photovoltaic converter (p. 311-312).

In regard to claim 3, Osborn et al. further discloses that the layer forming the filter is of constant thickness as shown in Figure 18, cobalt salts/liquid filter is contained in a glass channel (p. 303, 312, & 315).

With respect to claims 4 and 7, Osborn et al. further discloses that the filter is formed of a layer whose exterior face is oriented to divert this "unwanted" radiation out of the voltaic cell as shown in Figure 6.

In regard to claim 5, Osborn et al. further discloses that the exterior of the transparent layer is of decreasing thickness so that it is not parallel to the reflecting surface of the concentrator as shown in Figure 6.

As to claims 8 and 9, Osborn et al. further discloses the generator according to claim 7, wherein said reflecting concentrator/Fresnel lens or other concentrator reflects incident light toward said photoelectric cell (Figure 6).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Osborn et al. ("Spectral selectivity applied to hybrid concentration systems", Solar Energy Materials, vol. 14, no.3-5, November 1985, p. 301-329) in view of Leinkram (3,839,108).

Osborn et al. discloses a filter to the hybrid solar energy conversion device as Shown in Figure 6 (page 305), but fails to disclose that the exterior face of the transparent layer forming the filter is etched to form Fresnel steps.

Leinkram discloses Fresnel lens to receive solar radiation (col. 1; lines: 15-19) and further discloses the method of etching the exterior face of the transparent layer to form Fresnel steps (col. 4; lines: 65-68). Also, Leinkram teaches that the precision in his etching methods exceeds the prior art methods and for the first time it is possible to construct a theoretically ideal Fresnel zone plate (col. 5; lines: 7-11). It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the etching methods as taught by Leinkram to the hybrid solar conversion device of Osborn in order to construct a theoretically ideal Fresnel lens/zone plate.

***Response to Arguments***

Claim Rejections under 35 U.S.C. 102(b)

7. Applicant's arguments filed December 5, 2007 have been fully considered but they are not persuasive. The Applicant argues that while Osborn is relevant in teaching the reduction of wavelengths that are non-productive for PV conversion, the mechanism is different from that of the present invention.

8. The Examiner respectfully disagrees. Osborn discloses a filter as disclosed by the Applicant, thereby the mechanism of utilizing a filter/beamsplitter to filter out the unwanted wavelength is the same. Osborn discloses at least one photovoltaic cell covered by a transparent protection layer/glass substrate (page 305) and a reflecting concentrator/Fresnel Lens (page 305) as shown in Figure 6, characterized in that the concentrator/Fresnel lens is covered by a filter/beamsplitter as shown in Figure 6 to eliminate in the luminous flux reflected by the concentrator toward the photoelectric cell most of the "unwanted" radiation that is not able to excite the photovoltaic cell (page 311).

9. Applicant's arguments filed December 5, 2007 have been fully considered but they are not persuasive. The Applicant argues that the examiner also refers to page 305 as showing a "reflecting concentrator/Fresnel lens", but Osborn does not say anything about a reflecting concentrator, and a Fresnel lens is not such a device. The Fresnel lens simply concentrates. It is not a reflecting concentrator.

The Examiner respectfully disagrees. Osborn discloses a Fresnel lens with facets as shown in Figure 6. The Fresnel lens has total internal reflection facets as depicted below, as evidenced by Cassarly (**Handbook of Optics**, The McGraw-Hill companies, copyright 2001, p 2.10).



10. Applicant's arguments filed December 5, 2007 have been fully considered but they are not persuasive. The Applicant argues that Osborn does not disclose a photovoltaic cell covered by a transparent protection layer.

The Examiner mistakenly wrote the incorrect page number which has been corrected to refer to page 311. Osborn refers the photovoltaic cell in a layer of transparent fluid that allows specific radiation (i.e. protects against unwanted radiation) as shown in Figure 17.

### **Conclusion**

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHA HALL whose telephone number is (571)272-9812. The examiner can normally be reached on Monday-Thursday 8:30-7:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJH

/A. H./  
Examiner, Art Unit 1795

/Alexa D. Neckel/  
Supervisory Patent Examiner, Art Unit 1795